

S/126/61/012/004/018/021  
E193/E383

AUTHORS: Kagan, A.S., Rass, T.G. and Gorazdovskiy, T.Ya.

TITLE: Some laws governing the formation of, so-called,  
"friction austenite"

PERIODICAL: Fizika metallov i metallovedeniye, v. 12, no. 4,  
1961, 617 - 619

TEXT: Abrasion-treatment of certain hardened steels brings about the formation of a surface layer, characterized by high hardness and by a structure which is difficult to reveal by metallographic methods. X-ray examination of layers of this type showed them to contain austenite in quantities greater than those in the unaffected part of the specimen - hence the term "friction austenite". The object of the present investigation was to study the relationship between the quantity of friction austenite and the initial quantity of residual austenite in the steel  $\text{UX15}$  (ShKh15), hardened by quenching from 850 °C. Specimens with a different residual-austenite content were obtained by varying the conditions of sub-zero treatment of hardened material. The residual-austenite content was determined

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by the magnetic ballistic method, the quantity of the friction austenite being measured by X-ray diffraction. It was found that with increasing residual-austenite content the quantity of friction austenite decreased, its formation ceasing altogether at an (extrapolating) residual austenite content of 35%. If the theory is accepted that friction austenite is formed because of the friction-generated heat raising the temperature of the surface layer to the austenitic range, complete conversion of the resultant austenite to martensite being prevented by the presence of distortions of the second type which retard the  $\gamma \rightarrow \alpha$  transformation, the magnitude of the distortion of the second type in abraded surface layers should decrease with increasing proportion of the friction austenite. This postulate was confirmed experimentally by measuring the width of X-ray diffraction lines (311). The results are reproduced in Fig. 2, where the width of the reflections (B, mm) is plotted against the austenite content in hardened specimens (circles) and in hardened and abraded material (triangles). It will be seen that B of hardened material decreases with increasing residual

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austenite content and that the increase in B due to abrasion-induced work-hardening is almost constant, irrespective of the residual-austenite content. It is true that both the initial B and its increase reflect not only distortions of the second type but also dispersion of the mosaic blocks formed as a result of both  $\gamma \rightarrow \alpha$  transformation and work-hardening and that separation of these two effects is, in this case, rather difficult. It can, however, be assumed that the part of the total increase in B which is caused by work-hardening and phase-transformation does not depend on the residual-austenite content. Consequently, it is valid to infer from B the relationship between the magnitude of distortion of the second type and the residual-austenite content. The proportion of friction austenite in steel ShKh15 decreased also (with a corresponding increase in the proportion of martensite) after tempering at 160 °C. This effect can be attributed to stress relief and to the consequent decrease in the stability of austenite. There are 2 figures and 8 Soviet-bloc references.

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Some laws governing ....

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ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy  
konstruktorsko-tehnologicheskii institut  
podshipnikovoy promyshlennosti g. Moskva  
(All-Union Scientific-research Design-technology  
Institute for the Bearings Industry, Moscow)

SUBMITTED: January 10, 1961

Fig. 2:



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GORAZDOVSKIY, T.Ya.; KAGAN, A.S.; RASS, T.G.

Quantitative determination of residual austenite using an apparatus with scintillation recording. Zav.lab. 28 no.5:597 '62.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut podshipnikovoy promyshlennosti. (MIRA 15:6)

(Austenite)

GORAZDOVSKIY, Tadeush Yanushevich, kand. tekhn. nauk; MEL'NIKOVA,  
Zh.M., red.

[Nondestructive testing of metals; physical means of providing reliability] Nerazrushaiushchii kontrol' metallov; fizicheskie sredstva obespechenia nadezhnosti. Moskva, Izd-vo "Znanie," 1964. 39 p. (Novoe v zhizni, nauke, tekhnike. IV Seriya: Tekhnika, no.12) (MIRA 17:7)

ACC NR: AF7007623

SOURCE CODE: UR/0386/67/005/003/0078/0082

AUTHOR: Gorazdovskiy, T. Ya.

ORG: none

TITLE: Hard radiation from solids failing in shear

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 5, no. 3, 1967, 78-82

TOPIC TAGS: high pressure research, compressive stress, torsion stress, light emission, x ray emission, shear strength, material failure

ABSTRACT: The purpose of the investigation was to assess the damage produced in a solid by an appreciable shear deformation and in particular to analyze the radiation effects accompanying this damage, since earlier investigators paid no attention to these phenomena. The experiments were based on the hypothesis that failure in shear begins with formation of minute internal cavities and that the cavity-formation process, and hence the failure, can be countered by a hydrostatic compression of appreciable magnitude. To check on this proposition, a solid sample was subjected to combined axial and tangential forces in specially developed equipment, which is described in some detail. The tested substances were various nonexplosive polycrystalline dielectrics and semiconductors (marble, basalt, coal) both with native (undisturbed) structure and in the form of tablets pressed from their powders. At a certain value of the shear deformation, an explosion occurred, consisting of a sound effect, scat-

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UDC: none

ACC NR: AP7007623

tering of the finely dispersed material, and emission of blue-violet light and hard radiation with wavelength of about  $0.5 \text{ \AA}$  ( $\sim 25 \text{ kev}$ ) or even harder. It is concluded that the results reveal a hitherto uninvestigated process of failure under strong tangential stresses, resulting from adhesion of the tested material to the surfaces of the plungers and a result of prevention (by high hydrostatic pressure) of formation of internal cavities. Orig. art. has: 3 figures. [02]

SUB CODE: 20/ SUBM DATE: 11Oct66/ ORIG REF: 001/ OTH REF: 003 /  
ATD PRESS: 5117

Card 2/2



ALISHIN, S.N., doktor sel'skokhozyaystvennykh nauk, prof. GORE, A.I.,  
mladshiy nauchnyy sotrudnik.

Determining adsorbed sodium in soils [with summary in English].  
Izv. TS KhA no.4:88-97 '60. (MIRA 13:9)

(Soils--Sodium content)

AMSHINSKIY, N.N.; MARIICH, I.V.; MOLCHANOV, V.I.; ORLOVA, L.I.;  
GORB, A.M.; KUZNETSOV, Yu.A., nauchn. red.; SMORCHKOV,  
I.Ye., nauchn. red.; KRYZHANOVSKIY, V.A., ved.red.

[Accessories of the granitoids of the Altai and methods  
for studying them] Aktsessorii granitoidov Altaia i me-  
todika ikh izucheniia. Moskva, Nedra, 1964. 175 p.

(MIRA 17:10)

1. Chlen-korrespondent AN SSSR (for Kuznetsov).

GORB, P.V.

~~Establish a better system of wages for hatcheries. Ptitssevodstvo~~  
8 no.5:36 My '58. (MIRA 11:5)

1. Starshiy bukhgalter Znamenskoy inkubatorno-ptitssevodcheskoy  
stantsii, Kirovogradskoy oblasti.  
(Poultry hatcheries) (Wages)

GORB, G.D.

Side effects of anticoagulants of the coumarin series. Vrach.  
delo no. 1:120-121 '61. (MIRA 14:4)

1. Terapevticheskoye otdeleniye No.2 Kramatorskoy bol'nitsy No 3.  
(ANTICOAGULANTS (MEDICINE)) (COUMARIN)

GORB, G.D.

Complications in treatments with the steroid hormones of the adrenal cortex. Sovet. med. 26 no.5:39-41 My'63 (MIRA 17:1)

1. Iz terapevticheskogo otdeleniya No.2 (zav. G.D. Gorb) mediko-sanitarnoy chasti (glavnyy vrach - zasluzhennyy vrach UkrSSR N.F. Belobrov) Novo-Kramatorskogo mashinostroitel'nogo zavoda.

GORB

$$m: A$$

10/10/71

Содержание 7 классических металлов и их соединений в металлах и сплавах (исследования в области физики металлов и металловедения) (Сборник статей) М.: Металлургиздат, 1978. 177 с. 1,000 экз. 100 коп.

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**(1980) FIVE AND SIX MONTHS**

**Sharma, A.L. Microtome-technique for the study of Normal Tissues in the Surface Layers of Mucosa**

Part, U.S. Industries to Florida Industries of High Strength Steel  
and Industries of General Industrial Service Corporation in the  
Superior Range of 50-60."

**Pratt, E.A., Institute for War Relocation Studies**

UNIVERSITY OF CALIFORNIA

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⑥

GORB, M. L.

GROZIN, B.D.; SEMIROG-ORLIK, V.M.; GORB, M.L.

Electron microscopic examination of steels subjected to plastic  
deformations. Sbor.trud.Inst.stroi.mekh. AN USSR no.22:5-24 '56.  
(MLRA 10:5)

(Steel--Metallography)

SOV/124-58-1-1295

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 1, p 160 (USSR)

AUTHOR: Gorb, M. L.

TITLE: ~~On a~~ Method for the Construction of Hardening Curves of High-strength Steels Relative to Nonuniform Triaxial Compression (O metodike postroyeniya krivyykh uprochneniya vysokoprochnykh staley v usloviyakh vsestoronnego neravnomernogo szhatiya)

PERIODICAL: Sb. tr. In-ta stroit. Mekhan. AN UkrSSR, 1956, Nr 22, pp 35-55

ABSTRACT: Examination of a method of testing specimens of heat-treated high-strength steel for compression in a steel compression jig. The method permits a determination of the plastic-strain characteristics of these steels, as well as of the hardening thereof due to plastic strain. The author proposes formulas for the computation of the stress and strain intensities; these formulas are based on a theoretical investigation of the stresses and strains with due consideration of the friction forces acting on the end faces of the specimen. Certain special functions that enter into the formulas are tabulated; test results and their analysis for ShKh15 steel are adduced.

S. V. Boyarshinov

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GORB, M. L.

124-1957-10-12270 D

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 148 (USSR)

**AUTHOR:** Gorb, M. L.

**TITLE:** The Resistance to Plastic Deformation of High-strength Steels Under Non-uniform Volumetric Compression at High Temperatures (Soprotivleniye plasticheskomu deformirovaniyu vysokoprochnykh staley v usloviyakh ob'yemnogo neravnomernogo szhatiya pri povyshennykh temperaturakh)

**ABSTRACT:** Bibliographic entry of the Author's dissertation for the degree of Candidate of Technical Sciences, presented to the In-t stroit. mekh. AN USSR (Institute of Structural Mechanics, UkSSR Academy of Sciences), Kiyev, 1957.

**ASSOCIATION:** In-t stroit. mekhan. AN USSR (Institute of Structural Mechanics, UkSSR Academy of Sciences), Kiyev.

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GROZIN, B. D., VAL'CHUK, G. I., and GORB, M. L.

Gorb, M. L.

"Physical State of external Layers of Machine Parts" p. 32-40, in book Research in the Physics of Solids, Moscow, Izd-vo AN SSSR, 1957. 277 p. Ed. Bol'shanina, M. A. Tomsk Universitet, Siberskiy fiziko-tekhnicheskii institut.

Wear tests were performed on the MI machine. Different steels studied: steel R18, steel R9, steel 15 ShKh 15, steel U8. There are 9 figures and 1 Soviet reference.

This collection of articles is meant for metallurgical physicists and for engineers of the metal-working industry. This book contains results of research in the field of failure and plastic deformation of materials, mainly of metals. Problems of cutting, abrasion, friction, and wear of solid materials (metals) are discussed.

SOV/123-59-12-46051

Translation from: Referativnyy zhurnal.. Mashinostroyeniye, 1959, Nr 12, p 25 (USSR)

AUTHORS: Grozin, B.D., Val'chuk, G.I., Gorb, M.I.

TITLE: The Physical State of the Surface Layers of Machine Parts <sup>H</sup>

PERIODICAL: V sb.; Issled. po fiz. tverdogo tela. Moscow, AS USSR, 1957, pp 32-40

ABSTRACT: The Institute of Construction Mechanics of the AS UkrSSR carried out investigations on the complex application of research methods with the aid of electron microscopes, analysis of metal structure, X-rays and spectrum analysis in studying the mechanism of origination and distruction of the surface layer. Besides, different methods of the hardening technique have been worked out, which are applicable to the operating conditions of the machine parts. The investigations proved that the outer (active) metal layers are formed under the effect of all technological processes, both thermal and mechanical. The presence of structural stress concentrators is an important factor, lowering the durability of machine parts. Plastic deformation and heating of the outer metal layers as a result of friction, cause changes in the mechanical properties of various steel grades up to

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The Physical State of the Surface Layers of Machine Parts

SOV/123-59-12-46051

different degrees and in different directions, depending on the composition of the steel grade, processing conditions and the heating temperature of the machine part during the operation process. Diagrams of the test results are given for metals of various grades. 9 figures.

P.V.M.

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GORB, M.L.

PHASE I BOOK EXPLOITATION 507/5053  
Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.  
Iznos i iznosostoykost'. Antifrictionskiye materialy (Wear and Wear Resistance. Antifriction Materials) Moscow, Izd-vo AN SSSR, 1960. 273 p. Errata slip inserted. 3,500 copies printed. (Series: Itz; Trudy, v. 1)  
Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya. Resp. Ed.: M. M. Krushchov, Professor; Eds.: Eds. of Publishing House: M. Ya. Kabanov, and S. L. Orlik; Tech. Ed.: T. V. Polyakova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in 5 main areas: 1) Hydrodynamic Theory of Lubrication and Friction; 2) Friction and Wear; 3) Friction and Wear in Machines; 4) Friction and Wear in Machines; 5) Friction and Wear in Machines. The collection contains 100 articles, 10 of which are devoted to the problems of friction and wear in machines. The collection is published in 3 volumes, of which the present volume is the first. This volume contains articles concerning the wear and wear resistance of antifriction materials. Among the topics covered are: modern developments in the theory and experimental science of wear resistance of materials, specific data on the wear resistance of various combinations of materials, methods for increasing the wear resistance of certain materials, the effects of friction and wear on the structure of materials, the mechanics of the sealing of metals, the effect of various types of lubricating materials on wear, abrasive wear of a wide variety of materials and components under many different conditions, modern developments in antifriction materials, and the effects of finish machining on wear resistance. Many personalities are mentioned in the text. References accompany most of the articles.

Gorb, M. L. X-Ray Investigation of the Structure of Steel Deformed by Nonuniform Volumetric Compression at Normal and Elevated Temperatures 128  
Ikhelies, P. Ya., and V. I. Startsev. On the Stresses and Structural Transformations in Steel Due to Wear 136  
Klokova, E. P. Chipping of Metals Under Ordinary Conditions and the Action of Normal Loads 144  
Kostetskiy, B. I., A. K. Tupetkin, and I. G. Mosovskiy. Secondary Structures on Friction Surfaces, and the Wear of Metals 152  
Prubertiy, I. M., E. P. Zeplich, D. B. Kostobornikov, O. V. Podgorudnyy, and M. A. Sukhorukov. Dynamics of Structural Transformations in the Case of Wear 163

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GORB, M. L.

3

PHASE I BOOK EXPLOITATION

SOV/5029

Grozin, Boris Dmitriyevich, David Abramovich Draygor, Vsevolod Nikolayevich Semirog-Orlik, Mikhail Apollonovich Puzanov, Matvey L'vovich Gorb, Vil'yam Fedoseyevich Yankevich, Mariya Dmitriyevna Sinyavskaya, and Georgiy Iosifovich Val'chuk

Povysheniye ekspluatatsionnoy nadezhnosti detaley mashin (Increasing the Operational Reliability of Machine Parts) Moscow, Mashgiz, 1960. 292 p. Errata slip inserted. 10,000 copies printed.

Reviewer: V. S. Kramarov, Doctor of Technical Sciences, Professor;  
Ed.: D. A. Draygor, Doctor of Technical Sciences; Ed.:  
G. D. Tynyanyy; Tech. Ed.: M. S. Gornostaypol'skaya; Chief Ed.,  
Mashgiz (Southern Dept.): V. K. Serdyuk, Engineer.

PURPOSE: This book is intended for scientific workers and technical personnel in machine building.

COVERAGE: The authors discuss new methods of investigating the physical state of machine-part surface layers, important for determining the reliability of parts in operation. Information is

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Increasing the Operational Reliability (Cont.)

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presented on the influence of friction and wear conditions on fatigue limit and on the limited endurance of steel under the simultaneous action of friction forces and cyclic loads. Also discussed are: the effect of the impulse action of high-temperature compressed gases on the structure of the surface layers of metal, new machines for studying the wear resistance of metals under various friction conditions, and new processes for increasing the wear resistance of machine parts. The majority of investigations discussed were carried out by members of the Institut Mekhaniki AN UkrSSR (Institute of Mechanics, Academy of Sciences, Ukrainian SSR). Ch. I and the Conclusion were written by B. D. Grozin, Corresponding Member, Academy of Sciences UkrSSR, and D. A. Draygor, Doctor of Technical Sciences; M. L. Gorb, Candidate of Technical Sciences, wrote Section 1 of Ch. II; V. N. Semirog-Orlik, Candidate of Technical Sciences, wrote Section 2 of Ch. II; S. B. Nizhnik and T. M. Golovinskaya, Engineers, wrote Section 3 of Ch. II; Section 4 of Ch. II was the work of V. P. Yankevich, Engineer. Ch. III. was written by B. D. Grozin, M. L. Gorb, V. N. Semirog-Orlik and V. P. Yankevich.

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Increasing the Operational Reliability (Cont.)

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M. A. Puzanov, Candidate of Technical Sciences, wrote Sections 1-4 and 7 of Ch. IV; Section 5 of Ch. IV was written by B. D. Grozin and M. D. Sinyavskaya, Engineer; Section 6 of Ch. IV was the work of D. A. Draygor, and G. I. Val'chuk, Engineer. Sections 1 and 2 of Ch. V were written by M. D. Sinyavskaya; Section 3 of Ch. V was written by V. P. Yankevich. No personalities are mentioned. References accompany each chapter. There are 185 references: 175 Soviet, 3 German, 3 French, and 4 English.

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Ch. I. Basic Factors of Durability and Operational Reliability of Machine Parts	5
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Card 3/6



GROZIN, B.D., otv.red.; DRAYGOR, D.A., zam.otv.red.; BARABASH, M.L., red.toma; KRACHEL'SKIY, I.V., red.; SERENSEN, S.V., red.; FAYNERMAN, I.D., red.; ZASLAVSKIY, S.S., red. Prinimeli uchastiye: BRAUN, M.P., prof.; VAYNBERG, D.V., prof.; PETRENKO, I.P., kand.tekhn.nauk; SINYAVSKAYA, M.D., inzh.; SHEVCHUK, V.A., kand.tekhn.nauk; SEMIROG-ORLIK, V.N., kand.tekhn.nauk; YANKEVICH, V.F., inzh.; GORB, M.L., kand.tekhn.nauk; RAKHLINA, N.P., tekhn.red.

[Increasing the wear resistance and useful life of machinery in two volumes] Povyshenie iznosostoykosti i sroka sluzhby mashin v dvukh tomakh. Kiev, Izd-vo Akad.nauk USSR. Vol.1. 1960. 486 p.

(MIRA 13:12)

1. Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye oblastnoye pravleniye.  
(Mechanical wear)  
(Mechanical engineering)

18 8200

25442

S/137/61/000/006/070/092  
A005/A101

AUTHOR: Gorb, M.L.

TITLE: Roentgenostructural investigation of steel deformed by volumetric non-uniform compression at normal and elevated temperatures

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 6, 1961, 32-33, abstract 6Zh216 ("Tr. 3-y Vses. konferentsii po treniyu i iznosu v mashinakh, v. 1", Moscow, AN SSSR, 1960, 128 - 136)

TEXT: From the width and intensity of 110 and 220 reflexes, obtained by recording on a VPC-50 M (URS-50 I) device in Fe-K $\alpha$  radiation, the author determined the range of coherent dispersion and stresses of the II and III order in Y 8 (U8) and M X 15 (ShKh15) steels which were deformed by compression in rings by 0 - 30% at 20 - 600°C and tempered after cold deformation within the aforementioned temperature range. It was found that stresses of the II and III order decreased more intensively at higher deformation temperatures than at elevated tempering temperatures. It is shown that the range of coherent dispersion increases with higher tempering temperatures, although plastic deformation suppresses strongly this process. The values of stresses of II and III order revealed,

Card 1/2

Roentgenostructural investigation ...

25442 S/137/61/000/006/070/092  
A006/A101

are compared with characteristics of deformation resistance of the steels investigated; a linear correlation of the mentioned stresses  $\sigma_1$  with stresses of II order is detected. There are 9 references.

A. Babareko

[Abstracter's note: Complete translation]

Card 2/2

15.8080

41358  
S/081/62/000/017/089/102  
B177/B186

AUTHORS: Gorb, M. L., Sinyavskaya, M. D.

TITLE: Comparative tests for wear on polyamide resins subject to sliding friction against steel.

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 545, abstract 17P83 (In collection: Plastmassy v mashinostr. i priborostr. Kiyev, Gostekhizdat USSR, 1961, 294 - 302)

TEXT: To fix the limiting values of velocity and pressure at which polyamides can be used as construction materials in friction assemblies, research was conducted into the amount and intensity of relative wear suffered by specimens of the polyamides П68 (P68), and АК-7 (AK-7) (pure and containing fillers), and also of cord caprone at temperatures not higher than 150°, as a function of the velocity (0.4; 1.0; 2.0; 3.0; 4.0 and 5.0 m/sec) and pressure (10 - 150 kg/cm<sup>2</sup>), under sliding friction against steel both with and without lubricants. A simultaneous increase of velocity and pressure in dry sliding friction was found to increase the

"Card 1/2

S/081/62/000/017/089/102  
B177/B186

Comparative tests for wear on ...

intensity of wear. It is of advantage to introduce up to 10% of anti-friction fillers into polyamide materials, as this reduces the coefficient of friction and the temperature to which the friction surfaces are heated. Large quantities of filler increase the wear, and at certain values of pressure and velocity they either sharply increase the intensity of wear or they lead to breakdown. Introducing lubricant onto the friction surface without cooling (drip lubrication with MC (MS) oil) reduces the quantity and intensity of wear, and also increases the limiting values of its parameters. Abundant lubrication enhances this effect. [Abstracter's note: Complete translation.]

Card 2/2

43769

S/653/61/000/000/025/051  
I007/I207

15,8500

AUTHORS: Gorb, M.L. and Sinyavskaya, M.D.

TITLE: Comparative tests of wear in sliding friction between  
polyamide resins and steel

SOURCE: Plastmassy v mashinostroyenii i priborostroyenii.  
Pervaya resp. nauch.-tekhn. konfer. po vopr. prim.  
plastmass v mashinostr. i priborostr., Kiev, 1959.  
Kiev, Gostekhizdat, 1961, 294-302

TEXT: This is a report on investigations carried out to study  
the suitable use of plastics (in particular polyamides) as struc-  
tural components in friction assemblies. Particular attention was  
paid to the problem of intensity and amount of wear as a function  
of velocity and pressure during friction on steel with and without  
lubrication, and tests were conducted to establish the maximum values

Card 1/2

S/653/61/000/000/025/051  
I007/I207

Comparative tests of wear in ...

of velocity and pressure for the case of any friction. Test stand and methods are amply described and illustrated. The specimens were tested on compression at varying temperatures, and on wear resistance with and without lubrication. As was found, simultaneous increase in velocity and pressure on sliding dry-friction are liable to increase wear. The addition of a certain amount (maximum 10%) of antifriction fillers to the plastics is suitable as it reduces the friction coefficient and the temperature in the friction assembly. The use of drip lubrication (without) cooling markedly reduces intensity and amount of wear. There are 7 figures.

Card 2/2

ACCESSION NR: APL046154

S/0198/64/010/005/0547/0551

AUTHOR: Gorb, M. L. (Kiev)

TITLE: On the method of testing metals at high pressure and high temperature

SOURCE: Prikladna mekhanika, v. 10, no. 5, 1964, 547-551

TOPIC TAGS: metal testing, high pressure, high temperature, pressure chamber, temperature measurement

ABSTRACT: The construction of a new variant of a conical, cylindrical, high-pressure chamber is described. The weakest part, a cylindrical plunger, is supported in the chamber by the chamber itself, without any additional rings. A method based on the principle of a natural thermocouple is proposed for measuring the temperature in the high-pressure chamber. Orig. art. has: 3 figures and 1 graph.

ASSOCIATION: Instytut mekhaniky AN URSS (Mechanics Institute, AN URSS)

SUBMITTED: 20 Nov 63

SUB CODE: MM

Cord 1/1

NO REF SOV: 004

ENCL: 00

OTHER: 006



VAL'CHUK, G.I. [Val'chuk, H.I.]; GORB, M.L. [Gorb, M.L.]; MACHUGOVSKIY,  
B.M. [Machuhovs'kyi, B.M.]

Self-hardening plastics as substitute for antifriction metal  
compounds in the manufacture of food machinery. Khar. prom.  
no.3:40-45 J1-8 '85. (MIRA 18:9)

PELEPELIN, V.M. (Kiyev); GORB, M.L. (Kiyev)

Experimental investigation of deformations of system of rings  
in testing specimens under three-dimensional uneven pressure  
conditions. Prikl. mekh. 1 no.11:81-88 '65.

(MIRA 19:1)

1. Institut mekhaniki AN UkrSSR. Submitted April 22, 1965.

L 13827-66 EWT(d)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/  
 ACC NR: AP6001246 ETC(m) JD/WB/HW/KH SOURCE CODE: UR/0198/65/001/011/0081/0088

AUTHORS: Pelepelin, V. M. (Kiev); Gorb, M. L. (Kiev)

ORG: Institute of Mechanics, AN UkrSSR (Institut mekhaniki, AN UkrSSR)

TITLE: Experimental investigation of deformations in a system of bands in testing systems of specimens in conditions of global nonuniform compression

SOURCE: Prikladnaya mekhanika, v. 1, no. 11, 1965, 81-88

TOPIC TAGS: stress measurement, stress analysis, strain measurement, stretching

ABSTRACT: Experiments were performed for the evaluation of the stressed and de-  
 formed state of bracing band systems in global nonuniform compression tests. In-  
 ternal pressures required for plastic deformation of a ring are computed as

$$p_b = \frac{2\sigma_0}{\sqrt{3}} \sin\left(\frac{\pi}{6} - \theta_b\right).$$

This formula is used by A. Nadai (Plastichnost' i razrusheniye tverdkh tel, IL, 1954). Here,  $\theta_b$  characterizes the deformed state of the external ring during the loading process, and  $\sigma_0$  is the stress corresponding to the applied degree of deformation of the ring material. Axial deformation  $\varepsilon$  is related to  $\theta_b$  and to

Cord 1/3

ACC NR: AF6001246

the ratio of the external and internal radii ( $d / b$ ) according to the formulae

$$\epsilon = \frac{\left(\frac{d_0}{b_0}\right)^2 + \frac{2}{\sqrt{3}} \cos \theta_0 \exp \sqrt{3} \left(\frac{\pi}{6} - \theta_0\right)}{\left(\frac{d_0}{b_0}\right)^2 - 1};$$

$$\frac{d}{b} = \sqrt{(1 - \epsilon) \left(\frac{d_0}{b_0}\right)^2 - \epsilon},$$

where  $b_0$  and  $d_0$  are the internal and external radii of the undeformed ring. Experimental tests were performed to verify the latter two formulae. Figure 1 shows

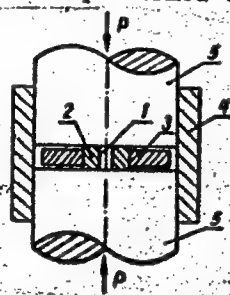


Fig. 1.

Card 2/3

L 13827-66

ACC NR: AP6001246

the experimental set-up. The specimen 1 is set in the ring systems 2 and 3. The test is conducted in chamber 4 which channels simultaneously the compression punches 5. Deformation is constrained, so that it is possible to determine the relationship of axial deformation of the specimen and radial deformation of points of the external lower surface of the internal ring. Measurement parameters and experimental control are described. Radial deformation of points of the compression surfaces of the rings was found to be

$$\epsilon_s = \frac{1}{\sqrt{1-\epsilon}} - 1;$$

and radial deformation of the inner ring along its external diameter is

$$\epsilon_d = \sqrt{1 + \left(\frac{\epsilon}{1-\epsilon}\right) \left(\frac{b_s}{d_s}\right)^2} - 1.$$

Additional deformation relationships are plotted. Test results were found to be in fair agreement with published reports. Orig. art. has: 6 figures and 5 equations.

SUB CODE: 20, 13/ SUBM DATE: 22Apr65/ ORIG REF: 003/ OTH REF: 001

*cc*

Card 3/3

GORB, M.L. (Kiyev); PELEPELIN, V.M. (Kiyev); CHERNYAK, N.I. (Kiyev)

Determining the radial pressure of a specimen under conditions  
of a nonuniform volumetric pressure. Prikl. mekh. 1 no.10:  
87-92 '65. (MIRA 18:12)

1. Institut mekhaniki AN UkrSSR. Submitted March 29, 1965.

ACC NR: AP6027489 (A) SOURCE CODE: UR/0418/66/000/003/0063/0066

AUTHOR: Bezruchko, I. V. (Engineer); Golovinskaya, T. M. (Engineer); Gorb, M. L. (Engineer); Panchenko, N. P. (Engineer); Chernenko, V. S. (Engineer); Chernyak, N. I. (Engineer)

ORG: None

TITLE: Contact fatigue strength of ShKh15 bearing steel

SOURCE: Tekhnologiya i organizatsiya proizvodstva, no. 3, 1966, 63-66

TOPIC TAGS: fatigue test, fatigue strength, steel microstructure, x-ray analysis, BEARING STEEL / SHKH15 BEARING STEEL

ABSTRACT: The authors describe a study carried out at the Institute of Mechanics AN UkrSSR in cooperation with the First State Bearing Plant on the contact fatigue strength of ShKh15 bearing steel. The basic criterion in evaluating polishing conditions is taken as the physical state of the layer structure and depth of structural variation. Mechanical methods for testing contact fatigue strength and for measuring microhardness were used together with metallophysical methods and microstructural and x-ray structural analysis. Steel specimens used for these tests were heat treated after finish machining. The following heat treatment procedures were used: quenching at 850°C in 40-50°C oil, cold processing with cooling to -30°C and tempering at 150-160°C. These conditions give specimens with a hardness of HRC 62-64. After heat treatment the specimens were polished under various conditions. The specimens were divided into three groups according to the amount of metal removed: 0.1 mm for the first group; 0.15 mm for the second and 0.25 mm for the third. Depth of structural

Card 1/2 UDC: 620.17:669.14

L 00309-07

ACC NR: AP6027489

variation after polishing for the various groups is the following: 10-30  $\mu$  for the first group, 150-170  $\mu$  for the second and 220-250  $\mu$  for the third. Microstructural analysis for the first group shows that structural variation is not significant. The microhardness of these specimens is 950-1000 kg/mm<sup>2</sup>. X-ray analysis for this group of specimens shows that variations due to polishing and honing are localized in a layer 10-30  $\mu$  thick. Slight deformation and elongation of the crystal lattice of the  $\alpha$ -phase is observed in this layer. Depth of variation for the second group of specimens is 150-170  $\mu$ . This is substantiated by microhardness measurement data and microstructural and x-ray analysis. Depth of variation for the third group reaches 250  $\mu$ , these variations being similar to those of the second group. The unetched surfaces of the specimens in the first and second groups examined under an electron microscope show scaly tearing and deep scratches caused by polishing. After etching, secondary solid solutions are observed on individual surfaces oriented in the direction of polishing. A graph is given showing the contact fatigue strength of all three groups. The results show that contact fatigue limit for the second and third groups is identical (150-160 kg/mm<sup>2</sup>), differing from the first group where maximum contact strength is 200 kg/mm<sup>2</sup>. Pit depth for the first group under staining does not exceed 300  $\mu$ , reaching 600-700  $\mu$  for the second and third groups. All groups show large-scale micro-focal scaling after testing observed on the electron microscope. The authors recommend that polishing procedures be selected which have the minimum effect on the structural variation of the surface layer of ShKh15 steel. Orig. art. has: 4 figures.

SUB CODE: 11/ SUBM DATE: None

Card 2/2 *PH*



L 10328-67 EWP(k)/EWT(m)/EWP(w)/EWP(t)/EIT JSP(C) SD  
ACC NR: AP6020918 SOURCE CODE: UR/0369/66/002/002/0204/0208

AUTHORS: Bezruchko, I. V.; Golovinskaya, T. M.; Gorb, M. L.; Panchenko, N. P.;  
Chernenko, V. S.; Chernyak, N. I.

ORG: Mechanics Institute of the AN UkrSSR, Kiev (Institut mekhaniki AN UkrSSR);  
First GPZ, Moscow (Pervyy GPZ)

TITLE: Effects of the physical condition of the surface layer, formed during grinding,  
on the contact wear resistance of steel ShKh15

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 2, 1966, 204-208

TOPIC TAGS: surface fatigue, surface property, metal friction, steel property,  
grinding wheel, electron microscope, steel, x-ray equipment/ ShKh15 steel, EB60SM2K  
grinding wheel, E46SM2K grinding wheel, MIM-8M microscope, UEM-100 electron microscope,  
UPS-50I x-ray equipment

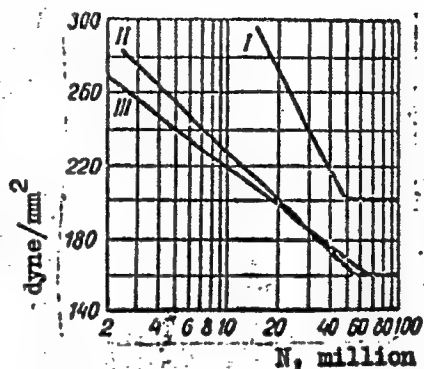
ABSTRACT: The effects of the structure and depth of structural gradients on the  
surface fatigue of ShKh15 steel were investigated. Thirty-five millimeter diameter x  
10-mm thick disc-shaped specimens were heat-treated and ground using wheel EB60SM2K  
and finish-ground with wheel E46SM2K. Three grinding regimes (0.005 mm/rev, 0.15 mm  
and 0.25 mm) were used to produce structural changes in layers of 10--20, 150--160,  
and 220--250 micron respectively. After lapping to an 11--12 class finish, surface  
fatigue tests were performed at 1750 rpm using methods described by M. A. Puzanov

Card 1/2

ACC NR: AP6020918

(Sb. Povysheniye iznosostoykosti detaley mashin, Izd. AN UkrSSR, 1956, No. 22).  
Microstructural studies of the surface layers were performed using optical and electron microscopes (MIM-8M and UEM-100 respectively) and x-ray equipment (UPS-50I). A discussion of the structural changes for the different grinding regimes is included, and the experimental results are summarized in Fig. 1.

Fig. 1. Surface fatigue of group I, II, and III specimens (corresponding to structural changes in layers of 10--20, 150--160, and 220--250 micron respectively)



Orig. art. has: 5 figures."

SUB CODE: 11,13/ SUBM DATE: 17Jul65/ ORIG REF: 003

DOVGYALLO, Ye.N.; GORB, N.M.

Relation between visibility and the cloud base. Trudy GGO  
no. 153:89-92 '64. (MIRA 17:9)

GORB, T.F.; GOROKHOVATSKIY, Ya.B.

Oxidation of ethylene on silver catalysts of various granulation.  
Trudy KTIPP no.17:173-177 '57. (MIRA 13:1)  
(Silver) (Ethylene)

GORB, T.F.; POLYACHENKO, M.M.; PRIKHOD'KO, I.A.; LUGOVAYA, L.N.

Investigation of the suitability of Ukrainian kieselguhrs to  
the needs of the sugar industry. Trudy KTIIP no.21:23-30 '59.  
(MIRA 14:1)

(Kieselguhr) (Sugar manufacture)

B0662

S/153/60/003/02/10/034  
B011/B003

5.3200

AUTHOR: Gorb, T. F.

TITLE: Investigation of the Part Played by Macrokinetic Factors  
by Measuring the Catalyst Temperature

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i  
khimicheskaya tekhnologiya, 1960, Vol. 3, No. 2,  
pp. 272-275

TEXT: The author studied the oxidation of ethylene on a silver catalyst. The important heating of the catalyst surface occurring in the extreme diffusion region served to clarify the influence exerted by macrofactors on the course of the catalytic process. As shown in Fig. 1 the investigation was made in a continuously working apparatus. A tablet of active silver pressed under a pressure of 300 atm was used as a catalyst. Openings for thermocouples were bored into the tablet (Figs. 2,3). A 5%-ethylene-air mixture passed through at a rate of 32 cm<sup>3</sup>/min was employed for the investigation. A silver tablet with a diameter of 10 mm

Card 1/3

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80662

Investigation of the Part Played by  
Macrokinetic Factors by Measuring the  
Catalyst Temperature

S/153/60/003/02/10/034  
B011/B003

with one hole and another with a diameter of 13 mm and three holes were used. The temperature distribution in the tablet of the catalyst is represented in Table 2. The experimental results obtained by a tablet with a diameter of 13 mm pressed under high pressure showed that the diffusion inhibition occurs earlier and more strongly than in smaller catalyst granules pressed at lower pressure (Ref. 1). The author determined that the temperature in the total mass of the tablet is equal in the 13-mm tablet between 230 and 290°, but much higher than the temperature of the passing gas. This is indicative of the fact that oxidation takes place close to the extreme diffusion region. Furthermore, the author stated that the thermocouple which touches the catalyst surface with its soldered joint does not show its true temperature in exothermic catalytic reactions in the diffusion region but rather the temperature mean between the surface temperature of the catalyst and the passing gas. There are 3 figures, 2 tables, and 1 Soviet reference.

Card 2/3

80662

Investigation of the Part Played by  
Macrokinetic Factors by Measuring the  
Catalyst Temperature

S/153/60/003/02/10/034  
B011/B003

ASSOCIATION: Institut fizicheskoy khimii AN UkrSSR (Institute of  
Physical Chemistry of the Academy of Sciences of the  
UkrSSR). Kiyevskiy tekhnologicheskiy institut pishchevoy  
promyshlennosti (Kiyev Technological Institute of Food  
Industry). Kafedra obshchey i neorganicheskoy khimii  
(Chair of General and Inorganic Chemistry)

SUBMITTED: March 31, 1958

44

Card 3/3



GORB, T.F.; USKOVA, Ye.T.

Some physicochemical properties of kieselguhr from the  
Kirovograd deposit. Trudy KTIPP no.25:98-101 '62. (MIRA 16:5)  
(Kirovograd Province—Diatomaceous earth)

GORB, T. F.; POLYACHENKO, M. M.; USKOVA, Ye. T.; ARTEMENKO, M. V.

Changes in ~~some~~ physicochemical properties of syrup occurring during filtration through kieselguhr. Izv.vys.ucheb.zav.; pishch.tekh. no. 2:60-61 '64. (MIRA 17:5)

1. Kiyevskiy tekhnologicheskij institut pishchevoy promyshlennosti, kafedra obshchey i neorganicheskoy khimii.

1ST AND 2ND COORDS										3RD AND 4TH COORDS									
PROCESS AND PROPERTIES INDEX																			
GORD, T.V.										11F									
CA																			
<p>The influence of protein concentrates and vitamin A on the growth and health condition of Romanian lambs. I. V. Gorb. <i>Doklady Vsesoyuz. Akad. Nauk SSSR</i>. No. 5, 40-6 (1948).—The high percentage of sickness among lambs was traced to the lack of vitamin A in the early stages of their growth when the vitamin content of the mother's milk drops, owing to poor feeding, and to the poor feed given to the lambs. An increase in vitamin content of the protein feedstuffs decreased the incidence of sickness and caused gains in wt. of the lambs.</p> <p>J. S. Joffe</p>																			
ASB-SEA METALLURGICAL LITERATURE CLASSIFICATION																			
15000 517181414										15000 5051414									
LONDON										LONDON									
15000 517181414										15000 5051414									

GORB, T. V., PROF

USSR/Medicine - Sheep  
Medicine - Vitamin A

Jan 1948

"The Significance of Vitamin A and Vitamin Therapy in  
Sheep Breeding," Prof T. V. Gorb, Dr of Agr Sci; Z. P.  
Semenchenko, Aspirant, All-Union Inst Animal Husbandry,

5 pp

Vol 25

"Veter" No 1, p. 29

Tests to establish effect of vitamins on sheep ob-  
tained following results: lack of vitamin A in feed  
will lower productivity of sheep; lack of this vitamin  
has adverse effects on organic function of sheep,  
lambs, observed to have become sick as a result of  
eating feed off ground, were cured by addition of  
vitamin A to this feed.

61T60

GORB, T.V., professor.

Effect of vegetable protein concentrates on the milk productivity  
of sheep. Ser.trud.khar'.vet.inst. 20:77-82 '49. (MLRA 9:11)  
(Proteins) (Sheep--Physiology) (Lactation)

1. GORB, T. V., Prof.: PLYUSHCH, N. G.: RCS', I. P.

2. USSR (600)

4. Vitamins

7. Influence of vitamins A, D, and C on the growth and state of health of sucking pigs. Sov. zootekh. 7 no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

GORB, T. V., Prof.; GRISHPAK, V. F.

Ukraine - Karakul Sheep

Feeding and maintenance of karakul ewes in the Ukraine. Kar. i zver. 6, No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

GORB, T.V., professor, doktor sel'skokhozyaystvennykh nauk.

Prevention and treatment of vitamin A deficiency in pregnant ewes.  
Sbor. trud. Khar'. vet. inst. 22:337-344 '54. (MLRA 9:12)

1. Kafedra korraleniya sel'skokhozyaystvennykh shivotnykh Khar'kovskogo  
veterinarnogo instituta.  
(Deficiency diseases) (Sheep—Diseases) (Vitamins—A)



GORB, T.V., Professor; PLYUSHCH, M.G., dotsent; SARZHEVSKIY, N.V., kandidat  
veterinarnykh nauk.

Effect of various corn rations on the bacon and lard production of  
swine. Veterinariia 32 no.10:74-76 O '55. (MIRA 8:12)

1. Khar'kovskiy veterinarnyy institut.  
(CORN (MAIZE) (SWINE--FEEDING AND FEEDING STUFFS))

USSR/Farm Animals: Swine

Q-3

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 35701

Author : Gorb T.V., Bolousov B.M.

Inst : Not Given

Title : The Influence of Cobalt on the Growth of Young Pigs (Vliyaniye kobal'ta na rost porosyat)

Orig Pub : Sots. tverinnitstvo, 1957, No 4, 57

Abstract : Three experiments were carried out - in the fall, spring and beginning of summer. In two experiments, all young pigs were given 25 mg. of iron sulfate and 10 mg. of copper sulfate a day. In addition to this, the experimental group was receiving 3 mg. of cobalt sulfate a day (0.5 mg. per 1 kg. of live weight). In the third experiment, the control group was not given trace elements, and the experimental group was receiving cobalt sulfate. In all experiments, the young pigs were administered trace elements from the 10th day to 2 months. All pigs receiving cobalt sulfate had a higher weaning weight by 9.7, 22.1, and 16.1%, as compared with the

Card : 1/2

USSR/Farm Animals. Swine

Q-3

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 35701

Ref Zhur - Biol., No 8, 1958, No 35701

pigs of the control group. The difference in weight was most noticeable in the second half of the experiment. In experimental pigs, in the first two experiments, a somewhat higher content of Hb in the blood was observed.

The experimental results of the first two experiments are given in the following table.

Table 1. Experimental results, No 1 and No 2.

During the first two experiments, the experimental pigs showed a significant increase in weight compared to the control pigs. The increase in weight was most noticeable in the second half of the experiment. In experimental pigs, in the first two experiments, a somewhat higher content of Hb in the blood was observed.

Card : 2/2

USSR/Farm Animals - General Problems.

C-1

Abs Jour : Ref Zhur - Biol., No 13, 1958, 33265

Author : Gorb, T.V., Klitsenko, S.T.

Inst :

Title : ~~Nutritional~~ Values of Various Kinds of Corn and of Their Hybrids.

Orig Pub : Kukuruz, 1957, No 9, 43-45

Abstract : At the Khar'kov Zootechnical Institute, the chemical composition and nutritional values of various kinds of corn were investigated. It was established that corn hybrids contain 55 percent more proteins, 72 percent more fats, and almost 1 1/2 times more ashes than Khar'kov white toothlike corn. As compared with the latter, the former possesses a 33 percent higher crop capacity and 49 percent more feed units.

Card 1/1

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000516020014-

CATEGORY : Cultivated Plants - Forage Crops

M

ABJ. JOUR. : RZhBiol., No. 14, 1953, No. 63464

AUTHOR : Gorb, T. V., Vlitsenko, S. T.

INST. : Kharkov Zootechnical Institute

TITLE : Yields, Chemical Composition and Food Value of the Kernels and Cobs of Different Varieties of Corn.

ORIG. PUB. : Sb. tr. Khar'kovsk. in-t, 1957, 9, 57-63

ABSTRACT : According to the data for 1956, the first place in regard to the yield (of ears) was taken by Partizanka variety (100.7 c/ha), the second by hybrid VIR-42 (98.20 c), then - Khar'kovskaya 23 (77.10 c) and Khar'kovskaya belaya' zubo-vidnaya (73.93 c/ha). The greatest amount of dry matter (6027 kg/ha) was secured from the crop of hybrid corn VIR-42. Hybrid corn also took the first place in the content of digestible protein and amount of food units. --Ye. A. Okorokova

Card: 1/1

GORB, T.V., doktor sel'skokhoz.nauk; MAKSAKOV, V.Ya.

Effective compounds for breaking down oxalic acid in the ensilage of sugar beet tops. Dokl.Akad.sel'khoz.24 no.10:15-18 '59. (MIRA 13:2)

1. Khar'kovskiy sootekhnicheskii institut. Predstavlena akademikom N.D.Potenkinym.  
(Oxalic acid) (Ensilage) (Sugar beets)

GORB, T.V. [Horb, T.V.], doktor sel'skokhoz.nauk; TERESHCHENKO, F.K.,  
kand.biolog.nauk; BOGAYEVSKIY, O.T. [Bohaiivs'kyi, O.T.], kand.  
veterin.nauk; POTEMKIN, M.D. [Pot'omkin, M.D.], akademik;  
KNIGA, M.I. [Knyha, M.I.]; POPOV, O.Ya., kand.sel'skokhoz.nauk;  
KHMELIK, G.G. [Hmelyk, H.H.], kand.sel'skokhoz.nauk; SHRAM, I.P.,  
kand.sel'skokhoz.nauk [deceased]; KOPIL, A.M., kand.sel'skokhoz.  
nauk; TSELYUTIN, V.K., kand.sel'skokhoz.nauk; BOZHKO, P.Ya., doktor  
sel'skokhoz.nauk; KROMIN, S.S., kand.sel'skokhoz.nauk; ZEMLIANSKIY,  
V.M. [Zenlians'kyi, V.M.], kand.sel'skokhoz.nauk; BORISENKO, A.M.  
[Borysenko, A.M.], kand.biolog.nauk; ZAKHARENKO, V.B., kand.biolog.  
nauk; SMIRNOV, I.V. [Smyrnov, I.V.], kand.biolog.nauk; KHRABUSTOVSKIY,  
I.F. [Khrabustovs'kyi, I.F.], kand.biolog.nauk; TORSTYANETSKAYA, M.N.,  
[Trostianets'ka, M.N.], assistant; ALESHKO, P.I., inzh.; VASIL'YEV,  
Vasyl'iev, O.F., kand.tekhn.nauk; BUGAYENKO, I.I. [Buhaienko, I.I.],  
starshiy prepodavatel'; TRAKHTOMIROVA, O.O., kand.ekonom.nauk;  
BUTKO, S.D., kand.ekonom.nauk; TELESNIK, K.G. [Teleshyk, K.H.],  
doktor ekonom.nauk; YAROSHENKO, V.D., kand.ekonom.nauk; LISIY, I.Y.  
[Lysyi, I.I.], red.; YEROSHENKO, T.G. [Yeroshenko, T.H.], tekhn.red.

[Handbook for zootechnicians] Dovidnyk zootehnika. 2., dopovnene  
i pereroblene vyd. Kyiv, Derzh.vyd-vo sil's'kohospodars'koi lit-ry  
URSR, 1960. 728 p. (MIRA 15:2)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.  
Lenina (for Potemkin). 2. Chlen-korrespondent Vsesoyuznoy akademii  
sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Kniga).  
(Stock and stock breeding)

GORB, T.F.

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1. Institut fizicheskoy khimii AN USSR i Kiyevskiy tekhnologicheskoy institut pishchevoy promyshlennosti, kafedra obshchey i neorganicheskoy khimii.

(Catalysis)

GORB, T.V.; MAKSAKOV, V.Ya.

Effect of oxalate-rich rations on the mineral metabolism and some physiological indices in ruminants. Nauch. dokl. vys. shkoly; biol. nauki no.4:53-58 '61. (MIRA 14:11)

1; Rekomendovana kafedroy kormleniya sel'skokhozyaystvennykh zhivotnykh Khar'kovskogo zootekhnicheskogo instituta.

(OXALIC ACID—PHYSIOLOGICAL EFFECT)

(MINERAL METABOLISM)

(CATTLE—PHYSIOLOGY)



GORB, T. V. (Doctor of Agricultural Sciences) and MAKSAKOV, V. Ya. (Candidate of Agricultural Sciences, Khar'kov Zooveterinary Institute).

"Effect of sugar beet tops upon the animal organism..."  
Veterinariya, vol. 39, no. 2, February 1962 pp. 66

USSR/Meadow Cultivation.

L

Abs Jour: Ref Zhur-Biol., No 9, 1958, 39133.

Author : Gorb, V. D.

Inst : Scientific Research Institute of Agriculture and  
Animal Husbandry of Western Rayons of UkrSSR.

Title : Views on the Introduction Into Cultivation of  
Wild-Growing Perennial Feed Grasses in the L'vov  
Oblast.

Orig Pub: Inform. byul. Nauk.-dosl. in-t zemlerobstva i  
tvorinnitstva zakhidn. rayoniv UkrSSR, 1957, vyp.  
2, 30-33.

Abstract: A computation of seed stocks of wild growing perennial  
grasses which can be utilized either for a direct  
conversion into meadows or for reproduction and se-  
lection work in the L'vov oblast is given in this

Card : 1/2

USSR/Meadow Cultivation.

L

Abs Jour: Ref Zhur-Biol., No 9, 1958, 39133.

paper. Seeds of wild grasses sometimes germinate better  
in the fields than cultivated sorts and their produc-  
tivity is higher, as a rule, especially in the second  
year. The contents in raw albumin and the feed values  
of cultivated and wild growing grasses are identical.  
S. P. Gal'perina.

Card : 2/2

~~GORB, V.T., agronom~~

Work of a collective farm agronomist. Zemledelie 7 no.5:34-37  
My '59. (MIR: 12:7)

1. Kolkhoz imeni Ionina, Novo-Moskovskogo rayona, Dnepropetrovskoy  
oblasti.

(Collective farms)

MOROZOV, N.G.; uchitel' (selo Klyuchevki, Chelyabinskoy oblasti);  
PRUDNIKOV, S., uchitel'; GORB, Ye.V.; SIDORENKO, B.P., uchitel';  
LAZAREV, V.; SVIDUNOVICH, A., uchitel'; RUBIN, M., metodist;  
VASIL'YEV, Ye.T., uchitel'

Letters to the editors. Geog. v shkole 23 no. 6:67-69 M-D  
'60. (MIRA 13:11)

1. 4-ya shkola shkoly g.Nevelya (for Prudnikov).
  2. Direktor 16-y shkoly g. Vinnitsy (for Gorb).
  3. 81-ya shkola g.Baku (for Sidorenko).
  4. 11-ya shkola g.Tyumeni (for Lazarev).
  5. Velemichskaya shkola Brestskoy oblasti (for Svidunovich).
  6. Vinnitskiy oblastnoy institut usovershenstvovaniya vrachey (for Rubin).
  7. Sanitorno-lesnaya shkola poselka Klyuchi, Kamchatskoy oblasti (for Vasil'yev).
- (Geography)

GORBACEV, S.

Formulation of the problem of calculation of concentration polarization and chemical polarization in M. Smutek's study. p. 615

CHEMICKÉ LISTY (Ceskoslovenská akademie věd. Československá společnost chemická) Praha, Czechoslovakia. Vol. 49, no. 4, Apr. 1955

Monthly List of East European Accessions (EEAI) E.C. Vol. 9, no. 1, Jan 1960  
Uncl.

GORBACHEVSKI, V.

"New half trailer for lumber hauling", p. 89 (Analele Romano-Sovietice. Seria Silvicultura-Industria Lemnului Si A Hartiei., Series a II-a, v. 7, no. 15, Sept/Oct. 1952  
Bucuresti)

SO: Monthly List of ~~Russian~~ East European Accessions, Vol. 2, No 9, /Library of Congress, September 1953, Uncl.

GORBACH, A.M.

Improving the quality of rubber tires in the Kirov Rubber Tire  
Plant. Kauch. i rez. 22 no.11:47-49 N '63. (MIRA 17:2)

1. Kirovskiy shinnyy zavod.

GORBACH, A.V., inzh.

Calculation method for determining the most advantageous cutting regime in grinding. Trudy VSTI no.1:141-159 '62.

(MIRA 17:11)



GORBACH, B.M., gornyy inzh.; KRUPPA, P.I., gornyy inzh.; MATOV, A.L., gornyy inzh.

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1. Novo-Krivorozhskiy gornoobogatitel'nyy kombinat.

GORBACH, E.I.

Age groups, growth, and time of sexual maturation in *Ctenopharyngodon idella* (Val.) and *Mylopharyngodon piceus* (Rich.) in the basin of the Amur River. Vop. ikht. 1 no. 1:119-126 '61. (MIRA 14:5)

1. Laboratoriya presnovodnykh ryb Amurskogo otdeleniya Tikhookeanskogo nauchno-issledovatel'skogo instituta rybnogo khozyaystva i okeanografii, g. Khabarovsk.

(Amur Valley—Carp)

GORBACH, E.I.

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fishes of the Amur River. Izv. TINRO 48:164-178 '62.  
(MIRA 16:4)

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GORBACH, F.

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4 no.11:42-44 N '61. (MIRA 14:12)  
(France--Insurance, Social)

SHEVCHENKO, L.F.; PYASETSKAYA, Ye.N.; GORBACH, G.I.; SHUL'GA, O.Ye.

Study of outbreaks of epidemic hepatitis in two villages of Chernogov Province. Zhur.mikrobiol.,epid.i immun. 40 no.12:114 D '63.

(MIRA 17:12)

1. Iz Kiyevskogo instituta epidemiologii i mikrobiologii i Chernigovskoy oblastnoy sanitarno-epidemiologicheskoy stantsii.

GORBACH, I.F., kand. nauk.

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(Fruit culture) (MIRA 11:4)

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(Fruit culture)

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(Fruit culture)



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(State farms--Finance)(Fruit culture)

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YAKOVLEVA, Ya., dokt. red.

[Problems in planning dairy husbandry] Voprosy planirovaniia  
molochnogo zhivotnovodstva. Moskva, Mosk. rabochii, 1963.  
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(Dairying--Economic aspects)

GORBACH, K.D., insh.; LEDNEV, G.S., insh.; ZAROVNYY, V.M., tekhnik

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(Electric railroads--Repair shops)

AVERBUKH, A.G.; ZAYTSEV, V.I.; SUMERINA, E.P.; GORBACH, L.M.

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My '65. (MIRA 18:7)

VYALOV, O.S., professor; VENOLINSKIY, I.V., nauchnyy sotrudnik; GOLEV, B.T., assistant; GORETSKIY, V.A., dotsent; GORRACH, L.P., aspirant; KUDRIN, L.N., assistant; GEL'FAND, M.Kh., redaktor izdatel'stva; MALYAVKO, A.V., tekhnicheskiy redaktor

[Geological museum of the Iv.Franko State University of Lvov; a  
brief handbook] Geologicheskii muzei L'vovskogo gosudarstvennogo  
universiteta im. Iv.Franko; kratkii putevoditel'. [L'vov] 1956.  
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1. Lvov. Universitet.

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(Lvov--Geological museums)

GORBACH, L.P.

Discovery of crabs in monilitic shales of the eastern Carpathians.  
Geol.sbor.[Lvov] no.2/3:307-312 '56. (MLRA 10:3)

1. L'vovskiy gosuniversitet imeni Ivana Franka.  
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GORBACH, L.P.

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Vses. paleont. ob-va 16:286-289 '57. (MIRA 11:4)  
(Chechva Valley--Grenadiers (Fish), Fossil)

GORBACH, L.P.

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1. Institut mineral'nykh resursov AN UkrSSR, Simferopol'.  
(Carpathian Mountains—Fishes, Fossil)



GORBACH, L.P.

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1. Institut mineral'nykh resursov AN VSSR.  
(Carpathian Mountain region--Fishes, Fossil)

GORBACH, L.P.

Fossil fishes in the upper horizon of the lower Menilite series  
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[Lvov] no.7/8:421-426 '61. (MIRA 14:12)

1. Institut mineral'nykh resursov AN USSR, Simferopol'.  
(Carpathian Mountain region—Fishes, Fossil)

GORBACH, L.P.

*Venericardia excellens* sp.nov. from the Lower Palaeocene in the  
Crimea. Paleont.zhur. no.1:160-163 '62. (MIRA 15:3)

I. Institut mineral'nykh resursov AN USSR, Simferopol'.  
(Crimea--Mollusks, Fossil)

GORBACH, L.P.; PEDAN, L.S.

*Siliceus septaria* from a band of kill in the Upper Cretaceous  
sediments of the Crimea. Min. sbor. no.17:75-81 '63. (MIRA 17:11)

1. Institut mineral'nykh resursov AN UkrSSR, Simferopol'.

AVERBUKH, A.G.; GORBACH, L.M.; SUMERINA, E.P.

Physical nature of waves arriving first, recorded in observations  
by the correlation refracted wave method. Prikl. geofiz. no.36:  
38-49 '63. (MIRA 16:9)

(Seismic waves)

VYALOV, O.S.; GORBACH, L.P. [Horbach, L.P.]; DOBROVOL'SKAYA, T.I.  
[Dobrovol's'ka, T.I.]

Fossil star-shaped prints of the activity of marine organisms in  
the eastern Crimea. Geol. zhur. 24 no.4:92-97 '64.

1. Institut geologii i geokhimii goryuchikh iskopayemykh AN  
UkrSSR. (MIRA 18:2)

GORBACH, L.P.; DOBROVOL'SKAYA, T.I.

Lower Cretaceous paleoseismic phenomena in the Crimea.  
Dokl. AN SSSR 154 no. 3:590-591 Ja '64. (MIRA 17:5)

1. Predstavleno akademikom V.S.Sobolevym.

VYALOV, O.S.; GORBACH, L.P.

Allomorphic sculpture of the Lower Paleocene oysters of  
Inkerman (Crimea). Vest. L'vov. un. Ser. geol. no. 2: 25-31  
'64. (MIRA 19:1)



EXCERPTA MEDICA Sec 8 Vol 12/8 Neurology Aug 59

3672. BIOELECTRICAL ACTIVITY OF THE BRAIN CORTEX IN THE PRESENCE OF TUMOURS OF THE POSTERIOR CRANIAL FOSSA (Russian text) - Gorbach M. L. - FIZIOL. ZH. (Kiev) 1957, 2/8 (3-11)

The electrical activity of the brain cortex was investigated in 45 cases with proved posterior fossa tumours. All the observations were divided into 4 groups depending on the localization of the tumour in relation to the main anatomical structures of the posterior cranial fossa. The EEGs are divided into 3 types, reflecting the main stages of transition from a normal alpha rhythm to a well defined pathological disturbance of the record. There is every reason to suppose that the various degrees of slowing down of the basic rhythms recorded represent definite inhibition of the cerebral cortex. (S)

MAKARCHENKO, A.F. [Makarchenko, O.F.]; GORBACH, M.L. [Horbach, M.L.]

Some philosophical problems of the relation between physiology  
and cybernetics. Fiziol. zhur. [Ukr.] 9 no.6:707-715 N-D '63.  
(MIRA 17:8)

1. Institut fiziologii im. Bogomol'tsa AN UkrSSR, Kiev.

GORBACH, M.M.

S/021/60/000/008/003/011  
D210/D305

AUTHOR: Horbach, M.M.

TITLE: On the approximation of periodic functions of two variables by Fourier sums

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovid1, no. 8, 1960, 1016 - 1018

TEXT: The aim of the paper is to give the asymptotic approximation for functions belonging to a class  $K_1 K_2 W(r, 1) H(\alpha, \beta)$ . Definition: Function  $f(x, y)$  belongs to the class  $K_1 K_2(r, 1) H(\alpha, \beta)$ . If it is periodic (period -  $2\pi$ ) with respect to each variable and satisfies the following conditions for  $r, l \geq 0, l \geq r, 0 < \alpha, \beta < 1$

$$|\varphi_1(x_2, y_2) - \varphi_1(x_1, y_1)| \leq K_1 |x_2 - x_1|^\alpha + K_2 |y_2 - y_1|^\beta,$$

$$|\varphi_1(x_2, 0) - \varphi_1(x_1, 0)| \leq K_1 |x_2 - x_1|^\alpha,$$

(1)

$$\varphi_1(x, y) = \frac{\partial f}{\partial y}, \varphi_2(x, y) = \frac{\partial f}{\partial x}.$$

Card 1/5

S/021/60/000/008/003/011  
D210/D305

On the approximation of ...

Let,

$$E_{mn} = \sup_{f \in K_{K,W}^{(\alpha, \beta)}(r, l)} \max_{(x, y)} |f(x, y) - S_{mn}(f, x, y)|,$$

where  $S_{mn}(f, x, y)$  - is the Fourier sum of order  $(mn)$  of function  $f(x, y) \in K_{K_1 K_2}^{(\alpha, \beta)}(r, l)$ . Theorem 1: For any  $K_1 K_2^{(\alpha, \beta)}(r, l)$  the asymptotic equality

$$E_{mn} = \frac{K_1 2^{a+1}}{\pi^3} \frac{\ln n}{n^{a+2}} \int_0^{\frac{\pi}{2}} u^a \sin u du + \frac{8}{\pi^4} \frac{\ln n \ln m}{m^l} \int_0^{\frac{\pi}{2}} \int_0^{\frac{\pi}{2}} \times \\ \times \min \left[ K_1 \left( \frac{2u}{n} \right)^a, K_2 \left( \frac{2v}{m} \right)^b \right] \sin u \sin v du dv + \rho_{mn}, \\ \rho_{mn} = O \left[ \frac{\ln n + \ln m}{m^l} \left( \frac{1}{n^a} + \frac{1}{m^b} \right) \right] + O \left( \frac{1}{n^{a+2}} + \frac{1}{m^{l+b}} \right).$$

Card 2/5